Attorney's Docket No. 1007198-000420

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	
Kwok-Wai Cheung et al.	Group Art Unit: 2623
Application No.: 09/917,639	Examiner: DOMINIC D. SALTARELLI
Filed: July 31, 2001	Appeal No.: _____
For: SYSTEM FOR DELIVERING DATA OVER A NETWORK	

APPEAL BRIEF

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This appeal is from the decision of the Primary Examiner dated October 31, 2006, finally rejecting claims 26-32, which are reproduced as the Claims Appendix of this brief.

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The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.17 and 41.20 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800.

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I. Real Party in Interest

The present application is assigned to Dinastech IPR Limited, a Hong Kong corporation.

II. Related Appeals and Interferences

There are no other appeals, interferences or judicial proceedings which will affect or be directly affected by, or have bearing on, the Board's decision in the pending appeal.

III. Status of Claims

The application contains claims 1-108. Claims 1-25 and 34-108 have been canceled. Claims 26-33 are currently pending. Claims 26-32 stand finally rejected, and claim 33 is objected to.

This appeal is directed to rejected claims 26-32.

IV. Status of Amendments

An Amendment was filed on January 30, 2007, concurrently with the Notice of Appeal. In an Advisory Action dated February 26, 2007, the examiner indicated that the Amendment had been entered, and withdrew the rejection of claim 33 under 35 U.S.C. § 112.

V. Summary of Claimed Subject Matter

The application contains a single remaining independent claim, namely claim 26. A mapping of that claim to representative portions of the disclosure is set forth hereinafter:

A system for transmitting data over a network to at least one client (page 1, lines 4-6) having a latency time to initiate transmission of said data to the client (page 3, lines 1-15), including:

- at least one anti-latency signal generator (Figure 3, multicast server unit; page 9, lines 5-6 and 28-32) for generating a plurality of anti-latency data streams (Figures 6 and 7, Group I streams I_1 to $I_{M)}$ containing at least a leading portion of data for receipt by a client (page 15, lines 15-16); and
- at least one interactive signal generator (page 9, line 32 to page 10, line1) for generating a plurality of interactive data streams (Figure 6, Group II streams II_1 to II_N) containing at least a remaining portion of said data (page 10, lines 21-21) for the client to merge into after receiving at least a portion of an anti-latency data stream (page 17, lines 1-4),

wherein:

- said data has a length *R*, and is fragmented into *K* segments each requiring a time *T* to transmit over the network (page 10, lines 13-16);
- the interactive data streams include *N* interactive data streams (page 11, lines 23-24), wherein
  - each of the *N* interactive data streams is repeated continuously within said interactive data stream (page 11, lines 19-29; Figure 6, repeating Group II streams II_2 and II_3),
  - and wherein each successive interactive data stream is staggered by an interactive time interval $=\frac{KT}{N}$; (page 11, lines 23-27 and page 19, line 17)

- the anti-latency data streams include M anti-latency data streams (page 15, line 17),

wherein the anti-latency data streams 1 to *M* are generated such that

- an m^{th} anti-latency data stream has F_m segments, wherein F_m is an m^{th} Fibonacci number (page 15, lines 17-19); and

- the F_m segments are repeated continuously within the m^{th} anti-latency data stream (page 11, lines 19-21; Figure 6, repeating Group I streams I_1 to I_7).

VI. Grounds of Rejection to be Reviewed on Appeal

The final Office Action presents a single ground of rejection to be reviewed on this appeal. Claims 26-32 stand rejected under 35 U.S.C. § 103 on the basis of U.S. Patent No. 5,724,646 (Ganek) in view of U.S. Patent No. 6,018,359 (Kermode).

VII. Argument

A. Claim 26

In rejecting claim 26, the final Office Action asserts that the Ganek patent discloses the features recited in this claim, with the exception of the last two elements, namely that an m^{th} anti-latency data stream has F_m segments, where F_m is an m^{th} Fibonacci number, and that the F_m segments are repeated continuously within the m^{th} anti-latency data stream. To this end, therefore, the Office Action refers to the Kermode patent, particularly, at column 6, line 45 to column 7, line 20, and alleges that it would be obvious to modify the system disclosed in the Ganek patent in view of the Kermode patent, to generate anti-latency data streams wherein the number of segments in each data stream correspond to a Fibonacci number. What the Office Action fails to provide, however, is any reason that a person of ordinary skill in the art would modify the teaching of the Ganek patent in such a manner, absent prior knowledge of the present disclosure. Appellants submit that the two references are directed to entirely different techniques for providing on-demand

video services, and there is no reasonable combination of their respective teachings that would lead a person of ordinary skill in the art to the subject matter of claim 26.

The Ganek patent discloses an on-demand video system in which two different sets of data streams are employed. The patent discloses an example in which a video program has a duration of one hour (column 7, lines 54-56). Referring to Figure 5A, the patent discloses that the entire program is repeatedly transmitted over six channels 101 -106, that are staggered at 10-minute intervals. To reduce the amount of time that a viewer needs to wait before beginning the playback of a program, the patent discloses a second set of channels 107-115, depicted in Figure 5B. Each of these channels contain the first 10 minutes of the program, and are staggered in one-minute intervals. The table near the bottom of column 8 illustrates how a combination of one of the main channels 101-106 and one of the secondary channels 107-115 is selected to play back the program, based upon the time when the user makes a request. Thus, except in those situations where the user's request coincides with the beginning of one of the main channels 101-106, the viewing of the program is accomplished by first viewing one of the secondary channels for the initial 10-minute period, followed by viewing the remainder of an appropriate one of the main channels 101-106.

In the system of the Ganek patent, each of the main program channels 101-106 contains the same data, i.e. the full program, which is provides at staggered intervals. Likewise, each of the secondary channels 107-115 also contains the same data, namely the first 10 minutes of the program, which is again provided at staggered intervals.

The on-demand video system disclosed in the Kermode patent is based upon an entirely different mode of operation. In this system, the content of a program is divided among several channels. In other words, each channel carries a different segment of the program, and the lengths of the segments vary, based upon their position within the program. This can be seen in Figure 3 of the patent, for example. The first segment of the program is carried by channel P0, a second segment is carried by channel P1, a third segment is carried by channel P2, and the fourth segment is carried by channel P3. These respective segments are sequentially played back in order, to provide a complete program. The Kermode patent discloses

that the respective lengths of the successive segments can correspond to a Fibonacci sequence.

The Office Action alleges that it would be obvious to modify the system disclosed in the Ganek patent, to generate anti-latency streams in accordance with the disclosure of the Kermode patent. However, doing so would destroy the principle of operation of the Ganek patent, and therefore would not be obvious to a person of ordinary skill in the art.

As noted previously, the Ganek patent discloses two sets of data streams. Within each set, every stream contains the same video data. Thus, the entire program can be viewed by selecting one of the secondary channels 107-115, followed by one of the main program channels 101-106. In contrast, the Kermode patent discloses a technique in which different video information is contained in each of the channels, namely different respective segments of the program. In order to receive the entire program in that system, it is necessary to tune to each of the different channel at the appropriate time.

It is not apparent from the Office Action how a person of ordinary skill in the art would combine the disclosures of these two patents. Because they are based upon entirely different operating principles, it is not apparent how the disclosure of the Kermode patent can be employed to modify any aspect of the Ganek patent. The Ganek patent discloses that the same content is duplicated in each of the channels, so that an appropriate one of the channels can be selected on the basis of the time at which the user's request is received, to thereby enable the entire video program to be viewed by tuning to that one channel. In contrast, the Kermode patent discloses that the program is segmented among several channels, and that viewing of the program requires tuning to each of those different channels in succession. If that teaching were to be incorporated into the system of the Ganek patent, the operating principle of the Ganek patent would be destroyed. In other words, it would no longer be possible for the user to "grab" an appropriate one of the channels for viewing the entire program, based upon the timing of the users' request.

Furthermore, if one where to employ the technique disclosed in the Kermode patent, there would no longer be a need to use two different sets of channels, as disclosed in the Ganek patent. Rather, the Kermode patent discloses that the entire

video program is segmented over the multiple transmission channels, with the earliest segments having the shortest durations, to reduce delay times. With such a result, there is no need to employ the secondary channels that are disclosed in the Ganek patent. Consequently, the result of the "modification" would be different from the claimed subject matter. Specifically, it would no longer employ a plurality of anti-latency data streams and a plurality of interactive data streams.

For at least these reasons, therefore, the Ganek and Kermode patents do not support the rejection of claims 26-32. First, there is no apparent reason, from the record, why a person of ordinary skill in the art would combine the teachings of these two patents that are directed to entirely disparate modes of operating an on-demand video system. Second, a reasonable application of the teachings of the Kermode patent would not result in the claimed subject matter.

B. Claim 30

Claim 30 recites that each of the interactive data streams contains only the remaining portion of the data, i.e. that portion which is not contained in the anti-latency data streams. In contrast, the Ganek patent discloses that the entire video program is contained in the main program channels 101-106.

The rejection of claim 30 alleges that it would be obvious to modify the system of the Ganek patent, to place on the remaining portion of the data in each of the interactive data streams, in view of the Kermode patent. However, as noted previously, the Kermode patent is directed to an entirely different type of operation than that which is disclosed in the Ganek patent. It does not disclose two different sets of data streams, one of which is used to provide the main program signal, and the other of which is used to reduce delay times. Rather, it discloses a single, complete set of channels over which the video program is segmented. The Office Action does not explain how a person of ordinary skill in the art would employ this teaching to arrive at the subject matter of claim 30. As discussed previously, a reasonable application of the Kermode patent would, in effect, totally eviscerate the operating principle of the Ganek patent. There is nothing in the Kermode patent to suggest using a first set of data streams that contain the leading portion of the video data, and a second set that contains only the remaining portion of the video data.

C. Claim 31

Claim 31 recites that F_M, i.e. the number of segments in the last anti-latency data stream, is greater than or equal to 2K/N. The rejection of claim 31 states that a value of K=0.5N satisfies the equation for any positive whole integer value of M. This mathematical analysis of the relationship recited in claim 31 is not sufficient to support the rejection. Even if the analysis, per se, is mathematically correct, the Office Action does not identify where either of the references discloses that the number of segments K in an anti-latency data stream is related to the number of interactive channels N. Specifically, the Office Action does not identify where either of the references discloses that the number of segments should be equal to one-half the number of interactive channels.

The rejection of claim 31 is based solely upon hindsight analysis of the claim itself, and not upon any teaching in the prior art references.

VIII. Claims Appendix

See attached Claims Appendix for a copy of the claims involved in the appeal.

IX. Evidence Appendix

(none)

X. Related Proceedings Appendix

(none)

XI. Conclusion

For the reasons presented above, the rejection of claims 26-32 is not properly founded in the statute, and should be reversed.

Respectfully submitted,

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Date July 2, 2007

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VIII. CLAIMS APPENDIX

The Appealed Claims

26. A system for transmitting data over a network to at least one client having a latency time to initiate transmission of said data to the client, including:

- at least one anti-latency signal generator for generating a plurality of anti-latency data streams containing at least a leading portion of data for receipt by a client; and
- at least one interactive signal generator for generating a plurality of interactive data streams containing at least a remaining portion of said data for the client to merge into after receiving at least a portion of an anti-latency data stream, wherein:
  - said data has a length *R*, and is fragmented into *K* segments each requiring a time *T* to transmit over the network;
  - the interactive data streams include *N* interactive data streams, wherein
    each of the *N* interactive data streams is repeated continuously within said interactive data stream,
    and wherein each successive interactive data stream is staggered by an interactive time interval $=\frac{KT}{N}$;
  - the anti-latency data streams include M anti-latency data streams, wherein the anti-latency data streams 1 to *M* are generated such that
    - an m^{th} anti-latency data stream has F_m segments, wherein F_m is an m^{th} Fibonacci number; and
    - the F_m segments are repeated continuously within the m^{th} anti-latency data stream.

27. The system of Claim 26, wherein:

- the client is connected to at least the m^{th} and $(m+1)^{th}$ anti-latency data streams when the client raises a request for said data;
- the data in at least the m^{th} and $(m+1)^{th}$ anti-latency data streams is buffered in the client;

- the client is subsequently connected to successive anti-latency data streams; and

until all data in the leading portion is received by the client.

28. The system of Claim 27, wherein:

- the client is connected to any one of the *N* interactive data streams after all data in the leading portion is received by the client.

29. The system of Claim 26, wherein each of the *N* interactive data streams contains the whole set of said data having *K* segments.

30. The system of Claim 26, wherein each of the *N* interactive data streams contains the remaining portion of said data only.

31. The system of Claim 26, wherein $F_M \geq \frac{2K}{N}$.

32. The system of Claim 26, wherein *m* starts from 1.